Index to

Aero/Space Engineering, Volume 17

(Aeronautical Engineering Review, prior to May Issue)

January—December, 1958

Subject Index

(See also Author Index, page 119.)

	Month	Page
ACCESSORIES & COMPONENTS		
Pneumatic Motors for Aircraft Actuation Systems, Edward J. Knight, Jr.	*Dec.*	44
Pneumatic System Design, J. V. Dymkowski	*Mar.*	50
AERODYNAMICS		
Autorotation of Fuselages, Mark H. Clarkson	*Feb.*	33
Calculations by the Method of Characteristics, R. D. Linnell	*Mar.*	39
The Development of Satisfactory Spin Characteristics for the T-37, Harry R. Clements	*Apr.*	38
Flow Visualization, A. M. Lippisch	*Feb.*	24
Hypersonic Aerodynamic Factors in Performance, Guidance, and Control, William H. Dorrance	*May*	30
Some Effects of Wind and Temperature Gradients on the Design of Missile Flight Control Systems, Melvin W. Lifson	*Sept.*	49
AEROELASTICITY		
Equivalent Configurations in Flutter Analysis, John D. C. Crisp	*Nov.*	55
AEROTHERMOELASTICITY		
Aerothermoelasticity, Milton Rogers	*Oct.*	34
Durability Under Varying Stress, Leopoldo V. Toralballa	*Nov.*	66
AIR TRANSPORT		
Commercial Air Cargo Potential, Winfield H. Arata, Jr.	*Dec.*	50
Propulsion Systems for Space Flight, R. B. Dilleaway	*Apr.*	42
AVIATION & SPACE MEDICINE		
The Environment of Space in Human Flight, Major Charles A. Berry, USAF (MC)	*Mar.*	35
Human Factors in Space Flight, Eugene B. Konecci	*June*	34
Interrelations of Space Medicine With Other Fields of Science, Hubertus Strughold, M.D.	*Apr.*	30
COMMUNICATIONS		
Should the Scientist Communicate?, Isaac Asimov.	*Jan.*	24
DETECTION		
Infrared Application to Guidance and Control, R. W. Powell and W. M. Kauffman	*May*	66
EDITORIAL		
The Address by the U.S. Senator from Missouri at the 1958 Honors Night Dinner of the Institute, The Hon. Stuart W. Symington	*Apr.*	22
The Challenge Is Here—Now, L. V. Berkner	*May*	28
The Dual Responsibility of IAS Membership, Edward C. Wells	*Dec.*	33
Evolution of the Air-Space Industry, Gen. Orval R. Cook, USAF (Ret.)	*Aug.*	28
IAS Presidents, 1958–1957	*Feb.*	18
Madrid in September	*July*	25
Oxcart to Spaceship	*Oct.*	32
Realm of the Airman—Unbounded, Brig. Gen. H. F. Gregory	*June*	32
The Scientific Approach, Kenneth S. M. Davidson (*published posthumously*)	*Nov.*	35
"Show Business"	*Feb.*	19
Space Technology and the NACA, Hugh L. Dryden	*Mar.*	32
Toward a Higher Education	*Jan.*	18
Toward Unlimited Horizons	*Sept.*	28
EDUCATION & TRAINING		
Engineering Education and Training by Industry, W. H. Arata, Jr.	*Jan.*	25
Observations on Engineering Education, Frederick Emmons Terman	*Dec.*	48
Should the Scientist Communicate?, Isaac Asimov.	*Jan.*	24
ELECTRONICS & ELECTRICAL EQUIPMENT		
Calculations by the Method of Characteristics, R. D. Linnell	*Mar.*	39
The Challenge Is Here—Now (*Editorial*), L. V. Berkner	*May*	28
Electronic Simulation for the Jet Age, Edward G. Schwarm	*May*	34
Equipment Cooling Techniques for Supersonic Aircraft, Gilbert L. Roth	*Aug.*	40
Laboratory Pressure Measurement Requirements for Evaluating the Air Data Computer, A. J. Eberlein	*Apr.*	53
A Philosophy of Air-Data Measurement, N. Y. Andersen and L. Bogdan	*Mar.*	56
Radio Navaids for Long-Range Flight, Mortimer Rogoff	*May*	44
Random Vibration Testing for Evaluation of Electronic Components for Aircraft and Missile Environments, James P. Monroe	*May*	78
Three Axis Flight Simulator Systems, Wallace E. Gibson	*Aug.*	36
Weapon System Requirements for Air Data Computers, A. K. Hammell	*Jan.*	32
The Weapons System Approach to Air Data Computing, H. F. Creel	*Feb.*	41
FLIGHT TESTING		
The Research Airplane—Past, Present, and Future, Walter C. Williams and Hubert M. Drake	*Jan.*	36
FUELS		
Some Effects of High-Energy Fuels on Aircraft Performance, Abraham Hyatt	*Nov.*	45

A Survey of the Radiation Stability of Hydrocarbon Fuels, J. G. Carroll, R. O. Bolt, and J. A. Bert ... *Mar.* 61

GRAVITY

The Engineer, the Physicist, and Gravitation, Louis Witten ... *June* 45
The Structure of Our Space, V. Hlavatý ... *Apr.* 25

INSTITUTE OF THE AERONAUTICAL SCIENCES

AC Spark Plug Division Is New Corporate Member ... *Dec.* 21
Professor Ackeret Honored ... *May* 23
Aero/Space Author Honored by Air Force ... *July* 17
Aero/Space Scientists and Engineers to Convene at Congress in Madrid ... *July* 9
AGARD to Discuss Impact of Space on NATO R&D ... *Oct.* 25
AIA-IAS Group Visit Cape Canaveral and Patrick AFB ... *June* 22
Air Force Honors F. E. Moskovics ... *Oct.* 27
Annual Business Meeting of the Institute ... *Mar.* 13
Army Helicopter Pilot Wins Flight Test Fellowship *June* 25
Avco Research Laboratory Is New Corporate Member ... *Aug.* 21
Aviation Medicine Symposium Planned ... *Oct.* 27
Benford to Head Medical Agency ... *Dec.* 21
Major Gen. Boyd Retires From USAF; Received 1955 Octave Chanute Award ... *Jan.* 14
Bristol's U.S. Subsidiary New Corporate Member *June* 25
Bulova Laboratories New IAS Corporate Member. *Mar.* 29
1958 CAI-IAS Joint Meeting Schedules 20 Technical Papers ... *Sept.* 17
Central Florida Section Organized by Members ... *July* 17
Corporate Members Agree on New Firm ... *Sept.* 19
A. Scott Crossfield Wins 1958 Octave Chanute Award ... *Aug.* 11
de Florez Awards Established at M.I.T. ... *Sept.* 17
Delco-Remy Division of GM Is New Corporate Member ... *Sept.* 17
Detroit Student Conference Held at Michigan University ... *Aug.* 19
Director's Report—1957 ... *Mar.* 19
Doolittle, Furnas Honored by University of Michigan ... *Jan.* 14
Doolittle Heads Space Laboratories ... *Oct.* 27
Douglas Promotes Five IAS Members ... *Nov.* 23
Donald W. Douglas, Jr., Elected President of Douglas Aircraft ... *Jan.* 14
H. W. Emmons to Deliver Three Minta Martin Lectures ... *Mar.* 29
Engineers, Scientists Offered Indexing Service ... *Sept.* 17
Equipment Displays, 16 Sessions Set for Telemetering Conference ... *May* 23
Fellowships in the Institute—1957 ... *Mar.* 23
First International Congress of the Aeronautical Sciences ... *Nov.* 27
First World Aeronautical Congress Moves Toward Realization ... *Jan.* 14
Five IAS Members in Reorganized Firm ... *Aug.* 21
Flight Test Fellowship Grads—Where Are They Now? ... *Dec.* 23
Forms Available, Competition Open Now for Flight-Test Engineering Fellowship ... *Nov.* 25
Four IAS Members on NACA Subcommittees ... *May* 23
French Scientist to Deliver 22nd Wright Brothers Lecture ... *Nov.* 21
Giannini Plasmadyne Is New Corporate Member. *Nov.* 23
Heat Transfer Institute Scheduled for Los Angeles. *Dec.* 27
The Louis W. Hill Space Transportation Award ... *Oct.* 32
Honorary Fellows for 1957 ... *Mar.* 23
IAS Awards for 1957 ... *Mar.* 24
IAS Members Advised They Must Initiate Regrading Machinery ... *Nov.* 23
The IAS at Montreal and Washington ... *Feb.* 14
IAS National Midwestern Meeting to Report Guided Missile Progress ... *Apr.* 14
IAS National Summer Meeting to Offer Balanced Program ... *June* 19
IAS Officers for 1958 ... *Mar.* 16
The IAS and Principals at Cleveland ... *June* 20
IAS 27th Annual Meeting to Serve Interests in 21 Aero/Space Fields ... *Dec.* 21
IBM Division Joins Corporate Members ... *Feb.* 15
Institute Member Founds Missile Product Company ... *July* 17
Library Reduces Photoprint Price ... *Feb.* 15
William Littlewood to Receive 1958 Guggenheim Medal ... *Oct.* 25
McCarthy, Russell Given Collier Trophy ... *Feb.* 15
Meet the Staff
Hugh C. Judge—Idea Man ... *June* 25
Majorie Rodé—"Miss Institute" ... *Oct.* 25
Walter E. Wills—Printer ... *Aug.* 23
Membership Committee Adds Three to Its Staff ... *Aug.* 21
National Meeting Scheduled on Dynamics, Aeroelasticity ... *July* 17
Navy Confers Award on J. C. Hunsaker ... *Oct.* 25
New Manual Sent to Student Branches ... *Dec.* 27
New Packaging for the *Aeronautical Engineering Review* ... *May* 21
Newly Elected Members of the Institute Council ... *Mar.* 17
Nine IAS Members Staff NASA Posts ... *Dec.* 21
Northeastern Regional Student Conference Held at Stevens Institute of Technology ... *July* 15
1959 Nuclear Congress to Be Held April 5–10 ... *Aug.* 21
President's Report—1957 ... *Mar.* 13
Princeton Names Building After Daniel C. Sayre ... *Apr.* 15
A Rhymed Thank You Read by Hunsaker ... *Apr.* 17
St. Louis Regional Conference Presents Seven Student Awards ... *Aug.* 19
San Diego Section Dedicates Library ... *Nov.* 23
Scientist Shortage? Battle Stations for Higher Education Is Navy's Answer ... *Feb.* 15
Second Annual Astronautics Symposium ... *Apr.* 13
Six IAS Members on NACA Space Committee ... *Apr.* 15
Southeastern Regional Student Conference Attended by Eight Schools, 167 Delegates ... *Sept.* 23
Sir Richard Southwell Is Visiting Professor at Rice. *Mar.* 29
Student Conferences Add Doctoral Division ... *Dec.* 27
Telemetering Conference in Baltimore, June 2–4 ... *Apr.* 15
Texas Regional Student Conference Draws 13 Colleges, 22 Competitors ... *July* 15
Third Middle-Atlantic Student Conference; Five Schools Present 15 Technical Papers ... *Sept.* 19
Thirteenth Flight Propulsion Meeting Schedules Four Classified Sessions ... *Feb.* 13
Three IAS Members Serve on CAA Birthday Committee ... *July* 17
Treasurer's Report—1957 ... *Mar.* 15
Two Missile Product Firms Join IAS Corporate Members ... *July* 17
1958 Water-Based Aviation Award Won by Navy BuAer Scientist ... *Aug.* 15
Edward C. Wells Elected President for 1958 ... *Jan.* 13
West Coast Student Conference Draws 500 Students and Faculty Members ... *Sept.* 23

INSTRUMENTS

Effects of Gyroscopic Cross Coupling on Missile Automatic Flight Control Systems, J. G. McCracken ... *Nov.* 70

Laboratory Pressure Measurement Requirements for Evaluating the Air Data Computer, A. J. Eberlein ... *Apr.* 53
Multipurpose Automatic Navigation, Barry J. Baron and Rodney W. Unold ... *May* 55
A New Stable Platform for Today's Aircraft *Today*, J. F. Schoeppel ... *Jan.* 50

MANAGEMENT

The Balanced Man, Robert E. Gross ... *Sept.* 34
How to Evaluate Engineers, Frederick L. Ryder ... *July* 46
Long-Range Planning, Edward A. Ledeen ... *June* 63
300 Days to Jet Time, Carl M. Christenson ... *July* 52

MATERIALS

Ceramic Materials—Properties for Structural Applications, W. J. Knapp and F. R. Shanley ... *Dec.* 34
Paper, Plastics, and Weight-Saving Construction in Aircraft, George May ... *July* 34
Selecting Structural Materials for Supersonic Flight, Donald D. Cox ... *Jan.* 28
Sheet Steels for High-Speed Aircraft and Missiles, A. L. Feild and M. E. Carruthers ... *June* 41
Stretched Acrylic—A Transparent Glazing Material for High-Speed Aircraft, John G. Stansbury ... *Jan.* 42

MEETING REPORTS

AHS Fourteenth National Forum Held April 16–19; Honors Night Draws 900 ... *Aug.* 15
Air Safety, Allan Bernhardt ... *Apr.* 50
Highlights of Technical Discussions at the Second Annual AFOSR-IAS Astronautics Symposium, Morton Alperin ... *July* 13
National Midwestern Meeting, IAS, Guided Missiles, John F. Yardley ... *Aug.* 13
Report of Technical Sessions—26th Annual Meeting, IAS, Allan Bernhardt ... *Apr.* 58
Second Annual Astronautics Symposium ... *July* 10
Space Exploration Regional Meeting (San Diego), William H. Dorrance ... *Oct.* 23
"Zero to Infinity" Keynotes National Summer Meeting ... *Oct.* 21

METEOROLOGY

The Role of Manned Balloons in the Exploration of Space, Malcolm D. Ross and M. Lee Lewis ... *Aug.* 45

MILITARY AVIATION

The Address by the U.S. Senator from Missouri at the 1958 Honors Night Dinner of the Institute (*Editorial*), The Hon. W. Stuart Symington ... *Apr.* 22
Aircraft Overrun Barriers, Major John E. Snow, USAF ... *Feb.* 37
Guidance and Control Problems in the Air Force Ballistic Missile Program, Part I, J. C. Fletcher. *May* 50
Guidance and Control Problems in the Air Force Ballistic Missile Program, Part II, J. C. Fletcher. *June* 65
Gun Gas Purging in Combat Aircraft, Joseph S. Mount and Elden R. Geib ... *July* 26
Research and Development Planning in the USAF, Lt. Col. Carlo R. Tosti ... *Feb.* 45

MISSILES

Effects of Gyroscopic Cross Coupling on Missile Automatic Flight Control Systems, J. G. McCracken ... *Nov.* 70
Guidance and Control Problems in the Air Force Ballistic Missile Program, Part I, J. C. Fletcher. *May* 50
Guidance and Control Problems in the Air Force Ballistic Missile Program, Part II, J. C. Fletcher *June* 65
Intelligence Sources for Guidance, Arthur S. Locke ... *Mar.* 45
Missile Noise as a Factor in Reliability, Paul S. Veneklasen ... *Sept.* 44
Random Vibration Testing for Evaluation of Electronic Components for Aircraft and Missile Environments, James P. Monroe ... *May* 78
Sheet Steels for High-Speed Aircraft and Missiles, A. L. Feild and M. E. Carruthers ... *June* 41
Some Effects of Wind and Temperature Gradients on the Design of Missile Flight Control Systems, Melvin W. Lifson ... *Sept.* 49

NAVIGATION

Advanced Doppler Navigation for the U.S. Army, J. R. Iverson ... *May* 81
An Application of Solar Radiation to Space Navigation, S. James Press ... *Nov.* 51
Cross Coupling in Inertial Navigation Systems, Robert E. Wilson and John B. Lewis ... *May* 60
Effects of Gyroscopic Cross Coupling on Missile Automatic Flight Control Systems, J. G. McCracken ... *Nov.* 70
Guidance for the Space Age, C. J. Mundo and E. W. Tooher ... *Sept.* 30
Multipurpose Automatic Navigator, Barry J. Baron and Rodney W. Unold ... *May* 55
Radio Navaids for Long-Range Flight, Mortimer Rogoff ... *May* 44
Some Problems of Space Navigation, Robert E. Roberson ... *Dec.* 39

NECROLOGY

B. W. Ainsworth ... *Dec.* 29
Charles F. Brooks ... *Apr.* 15
Charles C. Clark ... *Apr.* 15
William J. Cochran ... *Sept.* 21
Kenneth S. M. Davidson ... *June* 25
James H. Doolittle, Jr. ... *July* 17
William F. Durand ... *Oct.* 27
William R. Enyart ... *Sept.* 21
Karl J. Fairbanks ... *Aug.* 19
John C. Fowler ... *Dec.* 29
William A. Gatehouse, Jr. ... *June* 26
John L. Genta ... *Dec.* 29
Harland A. Gray, Jr. ... *July* 17
George H. Hauser ... *Aug.* 19
Harold P. Henning ... *Dec.* 29
John J. Herfurth ... *Dec.* 29
Robert K. Hughson ... *July* 17
Iven C. Kincheloe, Jr. ... *Oct.* 27
Capt. Gerald E. King, USAF ... *Jan.* 15
Raymond T. Lewis ... *July* 19
Curtis P. Liljengren ... *Jan.* 15
James A. Looney ... *Oct.* 29
Sigmund J. Lorenz ... *June* 26
George B. Pegram ... *Nov.* 23
Bernhard A. Rose ... *July* 19
Arthur J. Rowledge ... *Apr.* 15
Everett B. Schaefer ... *Sept.* 21
Hollis H. Schunter ... *Aug.* 19
Floyd A. Shannon ... *July* 19
Jurio Tsuchiya ... *Oct.* 29
Sir Alliot Verdon-Roe ... *Apr.* 15
Donald C. Voelker ... *Aug.* 21
Edward P. Warner ... *Sept.* 21
E. Clinton Wilcox ... *July* 19

NOISE

Missile Noise as a Factor in Reliability, Paul S. Veneklasen ... *Sept.* 44

NUCLEAR

Airborne Nuclear Propulsion System Design Considerations, Robert B. Ormsby, Jr. ... *Jan.* 20
Direct Cycle Nuclear Turbojet Power Plants, Eleanor L. Semple and William C. Cooley ... *Aug.* 30
Propulsion Systems for Space Flight, R. B. Dillaway ... *Apr.* 42
A Survey of the Radiation Stability of Hydrocarbon Fuels, J. G. Carroll, R. O. Bolt, and J. A. Bert ... *Mar.* 61

OPERATIONS

Commercial Air Cargo Potential, Winfield H. Arata, Jr. ... *Dec.* 50
The Turbine Engine in Salt Atmosphere Operation, F. Herbert Sharp ... *Jan.* 47

PERFORMANCE

The Turbine Engine in Salt Atmosphere Operation, F. Herbert Sharp ... *Jan.* 47

PROPULSION

Airborne Nuclear Propulsion System Design Considerations, Robert B. Ormsby, Jr. ... *Jan.* 20
Air-Breathing Power Plants in the Space Era, Peter G. Kappus ... *Nov.* 62
Booster Propulsion for Space Vehicles, Richard S. Wentink ... *July* 40
Direct Cycle Nuclear Turbojet Power Plants, Eleanor L. Semple and William C. Cooley ... *Aug.* 30
Propulsion Systems for Space Flight, R. B. Dillaway ... *Apr.* 42
Rocket Propulsion Requirements for Satellites and Moon Missions, John L. Sloop ... *Nov.* 37
Small Power Plants for Use in Space, Louis Rosenblum ... *July* 30
Thermopropulsive Characteristics of High-Speed Thrust Generators, A. F. Charwat ... *June* 49
The Turbine Engine in Salt Atmosphere Operation, F. Herbert Sharp ... *Jan.* 47
Turbojet, Turboprop, and Reciprocating Compound Powered Airplane Transport Systems, Ralph W. Allen ... *Sept.* 40
Turbojet-Engine Mechanical Design for High Mach Number Flight, H. C. Schnitzer ... *Sept.* 35

RESEARCH

The Research Airplane—Past, Present, and Future, Walter C. Williams and Hubert M. Drake ... *Jan.* 36

ROCKETS

Exit and Re-Entry Problems, G. V. Bull, K. R. Enkenhus, and G. H. Tidy ... *June* 56
Propulsion Systems for Space Flight, R. B. Dillaway ... *Apr.* 42
Reliability Achievement and Demonstration in a Development Program, H. R. Lawrence and W. H. Amster ... *Oct.* 65
Rocket Propulsion Requirements for Satellites and Moon Missions, John L. Sloop ... *Nov.* 37
Rocket Test Stand Pressure Controller Design, Gordon E. Click and Robert G. Halliday ... *May* 72
Thermopropulsive Characteristics of High-Speed Thrust Generators, A. F. Charwat ... *June* 49

SAFETY

Air Safety, Allan Bernhardt ... *Apr.* 50
Aircraft Overrun Barriers, Major John E. Snow, USAF ... *Feb.* 37
The Development of Satisfactory Spin Characteristics for the T-37, Harry R. Clements ... *Apr.* 38
Gun Gas Purging in Combat Aircraft, Joseph S. Mount and Elden R. Geib ... *July* 26
Survival at High Altitudes, Arnold I. Beck ... *Apr.* 33

SPACE FLIGHT

Air-Breathing Power Plants in the Space Era, Peter G. Kappus ... *Nov.* 62
An Application of Solar Radiation to Space Navigation, S. James Press ... *Nov.* 51
Booster Propulsion for Space Vehicles, Richard S. Wentink ... *July* 40
Business Implications of Future Space Flight Systems, William H. Dorrance ... *Feb.* 20
Departure and Return in Interplanetary Flight, Karel J. Bossart ... *Oct.* 44
The Engineer, the Physicist, and Gravitation, Louis Witten ... *June* 45
The Environment of Space in Human Flight, Major Charles A. Berry, USAF (MC) ... *Mar.* 35
Evolution of the Air-Space Industry (*Editorial*), Gen. Orval R. Cook, USAF (Ret.) ... *Aug.* 28
Exit and Re-Entry Problems, G. V. Bull, K. R. Enkenhus, and G. H. Tidy ... *June* 56
Guidance for the Space Age, C. J. Mundo and E. W. Tooher ... *Sept.* 30
Human Factors in Space Flight, Eugene B. Konecci ... *June* 34
Hypersonic Aerodynamic Factors in Performance, Guidance, and Control, William H. Dorrance ... *May* 30
Interrelations of Space Medicine With Other Fields of Science, Hubertus Strughold, M.D. ... *Apr.* 30
Our Philosophy of Space Missions, Krafft A. Ehricke ... *May* 38
Propulsion Systems for Space Flight, R. B. Dillaway ... *Apr.* 42
The Role of Manned Balloons in the Exploration of Space, Malcolm D. Ross and M. Lee Lewis ... *Aug.* 45
Small Power Plants for Use in Space, Louis Rosenblum ... *July* 30
Some Problems of Space Navigation, Robert E. Roberson ... *Dec.* 39
Space Technology and the NACA (*Editorial*), Hugh L. Dryden ... *Mar.* 32
The Structure of Our Space, V. Hlavatý ... *Apr.* 25

STRUCTURES

Ceramic Materials—Properties for Structural Applications, W. J. Knapp and F. R. Shanley ... *Dec.* 34
Durability Under Varying Stress, Leopoldo V. Toralballa ... *Nov.* 66
Equivalent Configurations in Flutter Analysis, John D. C. Crisp ... *Nov.* 55
Estimating Structural Box Weight, Lyle D. Green and Joseph Mudar ... *Feb.* 48
Loss of Torsional Stiffness Under Load, Lloyd E. Hackman ... *Oct.* 53
Selecting Structural Materials for Supersonic Flight, Donald D. Cox ... *Jan.* 28

SYSTEMS ENGINEERING

Business Implications of Future Space Flight Systems, William H. Dorrance ... *Feb.* 20
Pneumatic System Design, J. V. Dymkowski ... *Mar.* 50
Spares for Weapons Systems, Louis P. Stannard ... *Aug.* 53
Turbojet, Turboprop, and Reciprocating Compound Powered Airplane Transport Systems, Ralph W. Allen ... *Sept.* 40
Weapon System Requirements for Air Data Computers, A. K. Hammell ... *Jan.* 32

The Weapons System Approach to Air Data Computing, H. F. Creel ..... *Feb.* 41

TECHNICAL PLANNING

Long-Range Planning, Edward A. Ledeen ..... *June* 63
Reliability Achievement and Demonstration in a Development Program, H. R. Lawrence and W. H. Amster ..... *Oct.* 65

VTOL-STOL

Design Considerations for BLC STOL Airplanes, Fred C. Wagner ..... *Oct.* 58

✦ ✦ ✦

Author Index

ALLEN, RALPH W. Turbojet, Turboprop, and Reciprocating Compound Powered Airplane Transport Systems ..... *Sept.* 40
ALPERIN, MORTON. Highlights of Technical Discussions at the Second Annual AFOSR-IAS Astronautics Symposium ..... *July* 13
AMSTER, W. H., AND H. R. LAWRENCE. Reliability Achievement and Demonstration in a Development Program ..... *Oct.* 65
ANDERSEN, N. Y., AND L. BOGDAN. A Philosophy of Air-Data Measurement ..... *Mar.* 56
ARATA, WINFIELD H., JR. Commercial Air Cargo Potential ..... *Dec.* 50
ARATA, WINFIELD H., JR. Engineering Education and Training by Industry ..... *Jan.* 25
ASIMOV, ISAAC. Should the Scientist Communicate? ..... *Jan.* 24

BARON, BARRY J., AND RODNEY W. UNOLD. Multipurpose Automatic Navigator ..... *May* 55
BECK, ARNOLD I. Survival at High Altitudes ... *Apr.* 33
BERKNER, L. V. The Challenge Is Here—Now (*Editorial*) ..... *May* 28
BERNHARDT, ALLAN. Air Safety ..... *Apr.* 50
BERNHARDT, ALLAN. Report of Technical Sessions—26th Annual Meeting, IAS ..... *Apr.* 58
BERRY, MAJOR CHARLES A., USAF (MC). The Environment of Space in Human Flight ..... *Mar.* 35
BERT, J. A., J. G. CARROLL, AND R. O. BOLT. A Survey of the Radiation Stability of Hydrocarbon Fuels ..... *Mar.* 61
BOGDAN, L., and N. Y. ANDERSEN. A Philosophy of Air-Data Measurement ..... *Mar.* 56
BOLT, R. O., J. G. CARROLL, AND J. A. BERT. A Survey of the Radiation Stability of Hydrocarbon Fuels ..... *Mar.* 61
BOSSART, KAREL J. Departure and Return in Interplanetary Flight ..... *Oct.* 44
BULL, G. V., K. R. ENKENHUS, AND G. H. TIDY. Exit and Re-Entry Problems ..... *June* 56

CARROLL, J. G., R. O BOLT, AND J. A. BERT. A Survey of the Radiation Stability of Hydrocarbon Fuels ..... *Mar.* 61
CARRUTHERS, M. E., AND A. L. FEILD. Sheet Steels for High-Speed Aircraft and Missiles .... *June* 41
CHARWAT, A. F. Thermopropulsive Characteristics of High-Speed Thrust Generators ..... *June* 49
CHRISTENSON, CARL M. 300 Days to Jet Time .. *July* 52
CLARKSON, MARK H. Autorotation of Fuselages. *Feb.* 33
CLEMENTS, HARRY R. The Development of Satisfactory Spin Characteristics for the T-37 ..... *Apr.* 38
CLICK, GORDON E., AND ROBERT G. HALLIDAY. Rocket Test Stand Pressure Controller Design. *May* 72
COOK, GEN. ORVAL R., USAF (Ret.). Evolution of the Air-Space Industry (*Editorial*) ..... *Aug.* 28
COOLEY, WILLIAM C., AND ELEANOR L. SEMPLE. Direct Cycle Nuclear Turbojet Power Plants .. *Aug.* 30
COX, DONALD D. Selecting Structural Materials for Supersonic Flight ..... *Jan.* 28
CREEL, H. F. The Weapons System Approach to Air Data Computing ..... *Feb.* 41
CRISP, JOHN D. C. Equivalent Configurations in Flutter Analysis ..... *Nov.* 55

DAVIDSON, KENNETH S. M. The Scientific Approach (*Editorial, published posthumously*) .... *Nov.* 35
DILLAWAY, R. B. Propulsion Systems for Space Flight ..... *Apr.* 42
DORRANCE, WILLIAM H. Business Implications of Future Space Flight Systems ..... *Feb.* 20
DORRANCE, WILLIAM H. Hypersonic Aerodynamic Factors in Performance, Guidance, and Control ..... *May* 30
DORRANCE, WILLIAM H. Space Exploration Regional Meeting (San Diego) ..... *Oct.* 23
DRAKE, HUBERT M., AND WALTER C. WILLIAMS. The Research Airplane—Past, Present, and Future ..... *Jan.* 36
DRYDEN, HUGH L. Space Technology and the NACA (*Editorial*) ..... *Mar.* 32
DYMKOWSKI, J. V. Pneumatic System Design ... *Mar.* 50

EBERLEIN, A. J. Laboratory Pressure Measurement Requirements for Evaluating the Air Data Computer ..... *Apr.* 53
EHRICKE, KRAFFT A. Our Philosophy of Space Missions ..... *May* 38
ENKENHUS, K. R., G. V. BULL, AND G. H. TIDY. Exit and Re-Entry Problems ..... *June* 56

FEILD, A. L., AND M. E. CARRUTHERS. Sheet Steels for High-Speed Aircraft and Missiles .... *June* 41
FLETCHER, J. C. Guidance and Control Problems in the Air Force Ballistic Missile Program, Part I ..... *May* 50
FLETCHER, J. C. Guidance and Control Problems in the Air Force Ballistic Missile Program, Part II ..... *June* 65

GEIB, ELDEN R., AND JOSEPH S. MOUNT. Gun Gas Purging in Combat Aircraft ..... *July* 26
GIBSON, WALLACE E. Three Axis Flight Simulator Systems ..... *Aug.* 36
GREEN, LYLE D., AND JOSEPH MUDAR Estimating Structural Box Weight ..... *Feb.* 48
GREGORY, BRIG. GEN. H. F. Realm of the Airman—Unbounded (*Editorial*) ..... *June* 32
GROSS, ROBERT E. The Balanced Man ..... *Sept.* 34

HACKMAN, LLOYD E. Loss of Torsional Stiffness Under Load ..... *Oct.* 53
HALLIDAY, ROBERT G., AND GORDON E. CLICK. Rocket Test Stand Pressure Controller Design. *May* 72

XUM

HAMMELL, A. K. Weapon System Requirements for Air Data Computers ... *Jan.* 32
HLAVATÝ, V. The Structure of Our Space ... *Apr.* 25
HYATT, ABRAHAM. Some Effects of High-Energy Fuels on Aircraft Performance ... *Nov.* 45

IVERSON, J. R. Advanced Doppler Navigation for the U.S. Army ... *May* 81

KAPPUS, PETER G. Air-Breathing Power Plants in the Space Era ... *Nov.* 62
KAUFFMAN, W. M., AND R. W. POWELL. Infrared Application to Guidance and Control ... *May* 66
KNAPP, W. J., AND F. R. SHANLEY. Ceramic Materials—Properties for Structural Applications ... *Dec.* 34
KNIGHT, EDWARD J., JR. Pneumatic Motors for Aircraft Actuation Systems ... *Dec.* 44
KONECCI, EUGENE B. Human Factors in Space Flight ... *June* 34

LAWRENCE, H. R., AND W. H. AMSTER. Reliability Achievement and Demonstration in a Development Program ... *Oct.* 65
LEDEEN, EDWARD A. Long-Range Planning ... *June* 63
LEWIS, JOHN B., AND ROBERT E. WILSON. Cross Coupling in Inertial Navigation Systems ... *May* 60
LEWIS, M. LEE, AND MALCOLM D. ROSS. The Role of Manned Balloons in the Exploration of Space ... *Aug.* 45
LIFSON, MELVIN W. Some Effects of Wind and Temperature Gradients on the Design of Missile Flight Control Systems ... *Sept.* 49
LINNELL, R. D. Calculations by the Method of Characteristics ... *Mar.* 39
LIPPISCH, A. M. Flow Visualization ... *Feb.* 24
LOCKE, ARTHUR S. Intelligence Sources for Guidance ... *Mar.* 45

MAY, GEORGE. Paper, Plastics, and Weight-Saving Construction in Aircraft ... *July* 34
MCCRACKEN, J. G. Effects of Gyroscopic Cross Coupling on Missile Automatic Flight Control Systems ... *Nov.* 70
MONROE, JAMES P. Random Vibrating Testing for Evaluation of Electronic Components for Aircraft and Missile Environments ... *May* 78
MOUNT, JOSEPH S., AND ELDEN R. GEIB. Gun Gas Purging in Combat Aircraft ... *July* 26
MUDAR, JOSEPH, AND LYLE D GREEN. Estimating Structural Box Weight ... *Feb.* 48
MUNDO, C. J., AND E. W. TOOHER. Guidance for the Space Age ... *Sept.* 30

ORMSBY, ROBERT B., JR. Airborne Nuclear Propulsion System Design Considerations ... *Jan.* 20

POWELL, R. W., AND W. M. KAUFFMAN. Infrared Application to Guidance and Control ... *May* 66
PRESS, S. JAMES. An Application of Solar Radiation to Space Navigation ... *Nov.* 51

ROBERSON, ROBERT E. Some Problems of Space Navigation ... *Dec.* 39
ROGERS, MILTON. Aerothermoelasticity ... *Oct.* 34
ROGOFF, MORTIMER. Radio Navaids for Long-Range Flight ... *May* 44
ROSENBLUM, LOUIS. Small Power Plants for Use in Space ... *July* 30
ROSS, MALCOLM D., AND M. LEE LEWIS. The Role of Manned Balloons in the Exploration of Space ... *Aug.* 45
ROTH, GILBERT L. Equipment Cooling Techniques for Supersonic Aircraft ... *Aug.* 40
RYDER, FREDERICK L. How to Evaluate Engineers ... *July* 46

SCHNITZER, H. C. Turbojet-Engine Mechanical Design for High Mach Number Flight ... *Sept.* 35
SCHOEPPEL, J. F. A New Stable Platform for Today's Aircraft *Today* ... *Jan.* 50
SCHWARM, EDWARD G. Electronic Simulation for the Jet Age ... *May* 34
SEMPLE, ELEANOR L., AND WILLIAM C. COOLEY. Direct Cycle Nuclear Turbojet Power Plants ... *Aug.* 30
SHANLEY, F. R., AND W. J. KNAPP. Ceramic Materials—Properties for Structural Applications ... *Dec.* 34
SHARP, F. HERBERT. The Turbine Engine in Salt Atmosphere Operation ... *Jan.* 47
SLOOP, JOHN L. Rocket Propulsion Requirements for Satellites and Moon Missions ... *Nov.* 37
SNOW, MAJOR JOHN E., USAF. Aircraft Overrun Barriers ... *Feb.* 37
STANNARD, LOUIS P. Spares for Weapons Systems ... *Aug.* 53
STANSBURY, JOHN G. Stretched Acrylic—A Transparent Glazing Material for High-Speed Aircraft ... *Jan.* 42
STRUGHOLD, HUBERTUS, M.D. Interrelations of Space Medicine With Other Fields of Science ... *Apr.* 30
SYMINGTON, THE HON. W. STUART. The Address by the United States Senator from Missouri at the 1958 Honors Night Dinner of the Institute (*Editorial*) ... *Apr.* 22

TERMAN, FREDERICK EMMONS. Observations on Engineering Education ... *Dec.* 48
TIDY, G. H., G. V. BULL, AND K. R. ENKENHUS. Exit and Re-Entry Problems ... *June* 56
TOOHER, E. W., AND C. J. MUNDO. Guidance for the Space Age ... *Sept.* 30
TORALBALLA, LEOPOLDO V. Durability Under Varying Stress ... *Nov.* 66
TOSTI, LT. COL. CARLO R. Research and Development Planning in the USAF ... *Feb.* 45

UNOLD, RODNEY W., AND BARRY J. BARON. Multipurpose Automatic Navigator ... *May* 55

VENEKLASEN, PAUL S. Missile Noise as a Factor in Reliability ... *Sept.* 44

WAGNER, FRED C. Design Considerations for BLC STOL Airplanes ... *Oct.* 58
WELLS, EDWARD C. The Dual Responsibility of IAS Membership (*Editorial*) ... *Dec.* 33
WENTINK, RICHARD S. Booster Propulsion for Space Vehicles ... *July* 40
WILLIAMS, WALTER C., AND HUBERT M. DRAKE. The Research Airplane—Past, Present, and Future ... *Jan.* 36
WILSON, ROBERT E., AND JOHN B. LEWIS. Cross Coupling in Inertial Navigation Systems ... *May* 60
WITTEN, LOUIS. The Engineer, the Physicist, and Gravitation ... *June* 45

YARDLEY, JOHN F. IAS National Midwestern Meeting—Guided Missiles ... *Aug.* 13

XUM